# Confocal semiconductor inspection from Nikon

The OPTIPHOT 200C confocal microscope provides the high resolution and image contrast needed for inspecting LSI patterns with multiple layers and levels, says Nikon.

Using the highly rigid body from the existing OPTIPHOT 200 model provides the anti-vibration resistance essential for a confocal microscope, which selectively focuses on a very narrow band in depth.

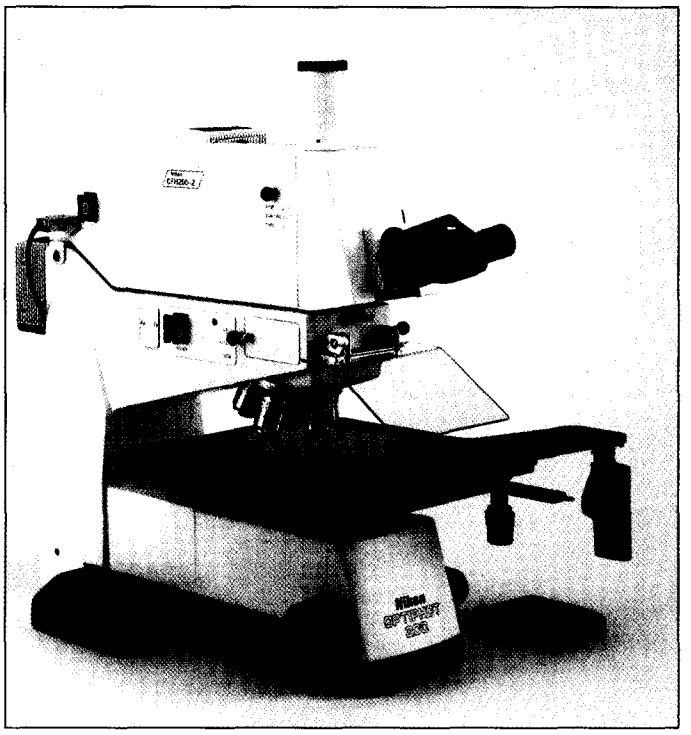
The OPTIPHOT 200C has high depth discrimination, which allows the out-of-focus areas to be cut off and greatly improves image contrast, says the company. According to Nikon this gives the 200C 20% higher resolution when compared with conventional microscopes.

The microscope is based on the Nipkow spinning disc principle that allows faster scanning speeds, making real-time imaging possible.

However, while the disc-type system tends to form darker images that could be affected by a small amount of flare, Nikon claims that the optical and mechanical designs in their microscope prevent flare from reaching the surface.

There are two modes of confocal operation, one providing brightness and the second maximizing image quality.

**Nikon UK Ltd, tel/fax: +44 (0)181 541 4440/4584.**



*The OPTIPHOT 200C microscope for real-time confocal imaging.*

# Improved gas analysis systems from VG

The VG Apix ultrahigh purity gas analysis system from VG Gas has been further developed by incorporation of a fast switching electronic gas processor from Air Liquide.

For the first time, the Apix mass-spectrometer-based system is available for single instrument on-line continuous quality control (CQC) of the four bulk gases — nitrogen, argon, helium and hydrogen.

Furthermore because switching time between bulk gases is typically ten minutes, VG says that CQC is possible with a single instrument, reducing equipment costs to the user. VG claims this breakthrough gives an improved sensitivity factor of 10–1000 times that of conventional analyser packages.

Contaminants such as water, hydrocarbons and oxygen can be measured to sub-ppb levels, while the API-MS technology used in the Apix system allows detection of impurities to 1 ppt, claims the company.

The improved VG Apix system is fully computer controlled, with user-programmable calibration and switching, dwell and purge times.

The system can be used as a fixed station CQC monitor or, as often used by fabrication sites in the Asia–Pacific region, as a point-of-use verification system after the purifier.

**Adrian Holley, tel: +44 (0)1606 548700.**

# Partnership for chemical and crystallographic characterization

EDAX International and TexSEM Laboratories Inc (TSL) are joining forces to produce an integrated PC-based system for simultaneous determination of chemistry and crystallography for polycrystalline materials.

EDAX designs and manufactures energy-dispersive X-ray analysis systems for qualitative and quantitative elemental microanalysis, while TSL provides orientation imaging microscopy (OIM) systems for the analysis and quantification of microstructure in crystalline materials.

Through their joint agreement, EDAX will integrate TSL's electron backscatter diffraction capabilities into both their PC-based microanalytical systems: the Windows95 based DX series and the WindowsNT-based Phoenix system.

The combined system provides advanced analysis capabilities, while reducing overall analysis times and equipment costs, says the partnership. For example OIM data can be collected simultaneously with electron diffraction spectra or X-ray maps for the identification of crystal phases.

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